

# Comparisons of Job Characteristics

Focus Occupation: **Materials Engineers (17-2131)**

Associated Occupation: **Construction and Building Inspectors (47-4011)**

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

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<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

## Knowledge

Similarity of Focus Occupation to Associated Occupation: 50

Focus Occupation: Materials Engineers (17-2131)

Associated Occupation: Construction and Building Inspectors (47-4011)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Building and Construction	4.0	21.4	3.6	<< Extensive education and/or training may be required
Engineering and Technology	5.7	15.3	18.9	>> Current knowledge level is likely more than sufficient
Design	5.2	14.0	7.9	<< Extensive education and/or training may be required
Public Safety and Security	6.9	13.6	4.8	<< Extensive education and/or training may be required
Mathematics	9.2	13.4	11.8	< Expanded education and/or training may be required
Mechanical	6.8	11.8	8.4	<< Extensive education and/or training may be required
Physics	4.3	10.1	10.6	0 Current knowledge level may be sufficient
Law and Government	5.9	9.6	3.4	<< Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Skills

Similarity of Focus Occupation to Associated Occupation: 79

Focus Occupation: Materials Engineers (17-2131)

Associated Occupation: Construction and Building Inspectors (47-4011)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Complex Problem Solving	9.1	10.7	12.0	> Skill level is likely sufficient
Quality Control Analysis	5.9	9.0	7.3	< A higher skill level may be required
Systems Evaluation	6.4	8.3	8.7	0 Current skill level may be sufficient

Mathematics	6.2	8.1	9.1	>	Skill level is likely sufficient
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The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 95			
Focus Occupation: Materials Engineers (17-2131) Associated Occupation: Construction and Building Inspectors (47-4011)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Oral Expression	12.4	13.6	15.3	>	Current ability level is likely sufficient
Oral Comprehension	12.5	13.5	14.1	0	Current ability level may be sufficient
Written Comprehension	11.0	12.5	14.2	>	Current ability level is likely sufficient
Problem Sensitivity	11.1	11.9	14.7	>	Current ability level is likely sufficient
Near Vision	11.1	11.5	12.3	0	Current ability level may be sufficient
Deductive Reasoning	10.6	11.2	14.2	>>	Current ability level is likely more than sufficient
Written Expression	9.8	11.2	13.8	>	Current ability level is likely sufficient
Inductive Reasoning	10.2	11.1	13.9	>	Current ability level is likely sufficient
Far Vision	7.8	9.7	8.2	<	Some improvement in abilities may be required
Visualization	7.5	9.3	9.5	0	Current ability level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 48
Focus Occupation: Materials Engineers (17-2131) Associated Occupation: Construction and Building Inspectors (47-4011)		
Work Activities	Exclusivity of Activity	
Analyze technical data, designs, or preliminary specifications	47	
Confer with engineering, technical or manufacturing personnel	25	
Direct and coordinate activities of workers or staff	3	
Prepare reports	8	
Prepare technical reports or related documentation	22	
Read blueprints	10	
Use knowledge of investigation techniques	16	

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Tools and Technologies that Both Occupations Have in Common

Similarity of Focus  
Occupation to Associated  
Occupation: 70

**Focus Occupation: Materials Engineers (17-2131)**  
**Associated Occupation: Construction and Building Inspectors (47-4011)**

Tools and Technologies	Exclusivity
Business function specific software	1
Cameras	2
Chemical evaluation instruments and supplies	10
Computer data input devices	2
Computers	1
Content authoring and editing software	1
Data management and query software	1
Electrical measuring and testing equipment	7
Electrochemical measuring instruments and accessories	9
Fluid mechanics equipment	11
Indicating and recording instruments	2
Industry specific software	1
Information exchange software	1
Length and thickness and distance measuring instruments	2
Light and wave generating and measuring equipment	4
Liquid and gas flow measuring and observing instruments	15
Metals and metallurgy and structural materials testing instruments	15
Network applications software	1
Power tools	2
Pressure measuring and control instruments	10
Spectroscopic equipment	10
Temperature and heat measuring instruments	6
Viewing and observing instruments and accessories	4

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.